1. INTRODUCTION

The two-mile long Grand Junction Railroad right-of-way through eastern Cambridge presents a unique opportunity to develop a "rail-with-trail"[1] (RWT) while maintaining current rail operations and accommodating proposed Urban Ring[2] transit facilities.

This report studies the feasibility of a RWT for the Grand Junction corridor. It includes an analysis of existing conditions, evaluation of two design options, a liability and insurance plan, and an implementation strategy.

Project Background and Significance

The proposed Grand Junction RWT would serve bicyclists, pedestrians, joggers, in-line skaters and others as a recreational and transportation route, linking various Cambridge neighborhoods and serving major employment and university centers.

The use of the Grand Junction corridor as a linear path was envisioned by the Cambridge Green Ribbon Open Space Committee[3] in its study of possible new parks and open space in the city and was identified as a top priority. The 2001 Eastern Cambridge Planning Study (ECAPS) also recommended the creation of the path along the Grand Junction corridor as an infrastructure project to enhance non-auto mobility. These two processes identified the opportunity for creating a linear open space in the neighborhoods' extensive new development in Eastern Cambridge, through which the railroad corridor passes, as a major benefit of creating a trail, since these areas do not currently have extensive open space opportunities.

The Grand Junction RWT would create a major north-south bicycle and pedestrian linkage between Boston, the MIT campus, several dense Cambridge neighborhoods and Somerville. By providing a

[1] A rail-with-trail is a trail immediately adjacent to an active rail line, as opposed to a rail-to-trail, which would replace an abandoned railroad line with a trail.
[2] The Urban Ring is an MBTA project to improve the circumferential connections among the spokes of the T's many radial lines. The project corridor passes through Boston, Chelsea, Everett, Medford, Somerville, Cambridge, and Brookline.
[3] See "Report of the Green Ribbon Open Space Committee," March 2000, by the Cambridge Community Development Department.

vital urban component to the existing network of parkland-based trails, the trail would do much to encourage bicycling and walking to and from the area's major employment and university centers.

The Grand Junction RWT would also serve to highlight portions of Cambridge's industrial history by providing new public access to the old rail corridor. The trail's route from parklands, through the old manufacturing corridor, to residential neighborhoods – all in only two miles – would provide an interesting and unique experience to trail users.

Project Location

The corridor runs through the neighborhoods of East Cambridge, Area Four, and Cambridgeport. (See Figure 1-1). Major employment centers such as Kendall Square/Cambridge Center and the Massachusetts Institute of Technology (MIT) lie immediately adjacent to the corridor. The corridor runs southwest to northeast across eastern Cambridge, crossing from Boston (Allston) over the Charles River and running parallel to Vassar Street and Fulkerson Street to Gore Street, where it enters Somerville. The Dr. Paul Dudley White Bike Path already exists at its southern end along the Charles River basin. At its northern end it connects to parklands in North Point via the street network, although there is potential for developing a direct connection to the proposed Somerville Community Path in the future.

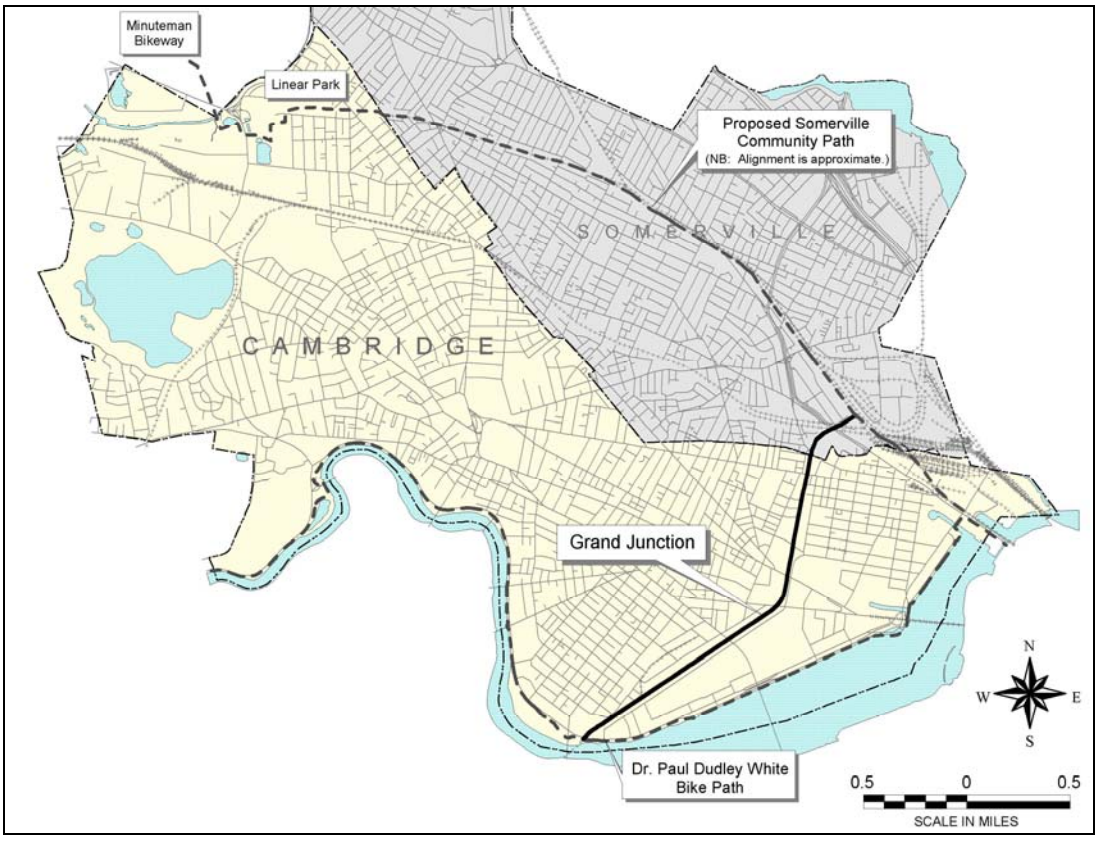


Figure 1-1. Vicinity Map

Project Benefits

The proposed Grand Junction Multi-Use Trail would provide recreational benefits and transportation choices for Cambridge residents, workers, students, and visitors. The path[4] would serve areas of Cambridge that have limited trail access. The densely populated neighborhoods of Cambridgeport, Area Four, and East Cambridge contain approximately 34% of the City's population. The Green Ribbon Report identified the eastern part of the city as one with high need and priority for creating a trail.

Following are some of the benefits of the Grand Junction Trail:

- Open space and recreational facility for Cambridge neighborhoods
- Strong linear park connection to Charles River Basin
- Transportation route for Cambridge residents, workers, visitors
- Link in regional network of multi-use paths
- Pedestrian path linking Urban Ring stations and Cambridge destinations

Connections to Regional Pathways

The Grand Junction Multi-Use Trail would add a major link in the growing regional system of bicycle and multi-use pathways. As Figure 1-2 shows, the path would connect Boston, the Charles River paths, Cambridgeport, East Cambridge, and Somerville. The connections with the Charles River paths would facilitate bike travel to and from Watertown, Newton, Allston/Brighton, Back Bay/Fenway, Beacon Hill, and Charlestown. Via a short connection in Boston, the Grand Junction Trail would also connect to the "Emerald Necklace" system of paths through the Fenway, Roxbury, Jamaica Plain and Forest Hills sections of Boston.

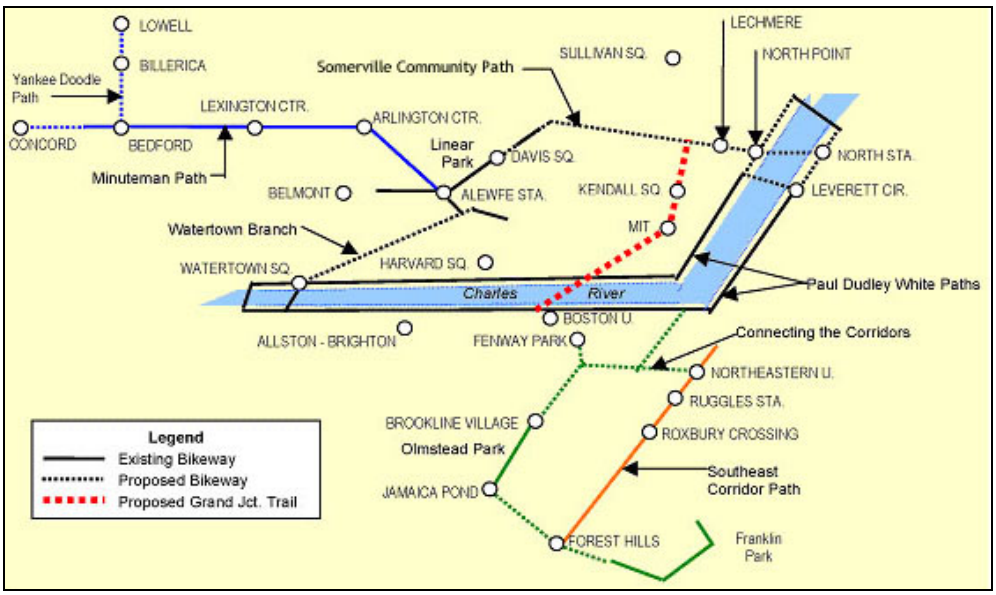


Figure 1-2. Regional Bikeways and Pathways

[4] The terms "trail" and "path" are used interchangeably in this document.

The path also intersects on-street bicycle lanes along Massachusetts Avenue, Main Street and Hampshire Street. These routes facilitate bike travel to and from Arlington, Boston, Somerville, and from within Cambridge.

With the proposed extension in Somerville of the Linear Park bikeway (Somerville Community Path), the Grand Junction Trail would also connect with the Minuteman Path to Arlington, Belmont, Lexington, and Bedford. Proposals also exist for a path from the end of Minuteman in Bedford west to Concord along an abandoned railbed.

The Grand Junction Trail would have direct connections to the Charles Basin pathways (Dr. Paul Dudley White Path) on either side of the river. These paths currently extend from the Museum of Science to beyond Watertown Square. There are plans underway to extend the Charles River pathways on each side of the river beyond the Museum of Science to the Charlestown Bridge (North Washington Street). A portion of this path system in North Point Park is under construction and expected to be completed in 2006.

Another proposal is the use of the Watertown Branch railbed from the vicinity of Fresh Pond to Watertown Square, and a connection to the Charles River pathways.

The Charles River Basin pathways come within one-half mile of the "Emerald Necklace" bike path system. This system includes existing pathways along the Riverway, Olmstead Park, the Arboretum, and Franklin Park; as well as the Southwest Corridor bike path. Under the proposed restoration of the Emerald Necklace by Boston Parks and Recreation and the Town of Brookline, bike paths will be continuous from the Back Bay to Franklin Park. Included is a connection between the Back Bay Fens and the Southeast Corridor path via Forsyth Street and the Northeastern University campus (a project know as "Connecting the Corridors").

Overall, the Grand Junction Trail would be a component in a system of well over 50 miles of contiguous pathways in Greater Boston.

Open Space Recreational Resource

Cambridge is a dense, highly developed city with little untapped open space. The Grand Junction corridor represents one of the best remaining opportunities for new open space for active recreation. As noted in the City's Green Ribbon Committee report, "Park trails, pathways and 'linear parks' serve several key functions – as an alternative for car-free commuters, as a vital form of safe, enjoyable access to community parks and large urban parks, and as a pleasure in themselves. Improving or creating several park trail connections would enhance all of these functions for Cambridge."

The Grand Junction Trail would serve areas of Cambridge with limited open space resources. In addition to being an important recreational resource itself, the path would connect Area Four, East Cambridge, and Cambridgeport with the Charles River Basin reservation at Magazine Beach. The basin is the largest open space in the city and defines nearly one-half of the perimeter of Cambridge. Magazine Beach includes recreation fields, a swimming pool, and pathways along the river, including the Paul Dudley White Bike Path. Unfortunately, much of Cambridge is either distant from the riverfront or the route to the Charles is difficult or indirect. The Charles River Basin will be more accessible to city residents, especially young children, the elderly, and those with disabilities by using a path that is safe, level, and has few street crossings.

Trip Mitigation

The Grand Junction Multi-Use Trail would make commuting by bicycle or on foot easier and more attractive for a large number of commuters. In 1999, over 56,000 people worked within one-half mile of the corridor.[5] This number is only increasing with the expansion of office space and R&D facilities.

The path would make commuting and other utilitarian trips by bicycle and transit more convenient for many who live in Cambridge and the surrounding communities. Reducing motor vehicle traffic is a priority for the City of Cambridge. Increasingly, residents see growing motor vehicle traffic as a major issue, affecting their health and the livability of their neighborhoods. The path and the Urban Ring would be important contributions encouraging people to leave their cars at home.

Bicycle Transportation

As Figure 1-2 on page 1-3 shows, the path would facilitate bicycle travel between Cambridge and Boston, Somerville, Watertown, Newton, Allston/Brighton, Arlington, and other nearby communities.

Pedestrian and Transit Trips

As a walking path, it would augment the proposed Urban Ring transit line by distributing riders to destinations between proposed stations.

Other Benefits

The presence of the path would benefit emergency services, by providing a paved access route that could be used by police, fire, and ambulance. The construction of a path would improve the aesthetics of the corridor and potentially increase property values of land adjacent to the path. This would enhance areas such as the MIT campus, the Kendall Square/Cambridge Center area and residential areas in East Cambridge. The path would tie together adjacent communities by making walking and bicycling trips easier and more seamless.

[5] Cambridge Community Development Department, November 1999.

Other Proposed Uses: Urban Ring

– **Urban Ring**: The Urban Ring is a Massachusetts Bay Transportation Authority (MBTA) project in the concept stage. The Urban Ring study is considering a combination of fixed-route transit with bus route improvements to meet increasing demand for crosstown travel. It includes East Boston, Chelsea, Everett, Somerville, Cambridge, plus the Kenmore/Fenway, Roxbury, and Columbia Point sections of Boston.

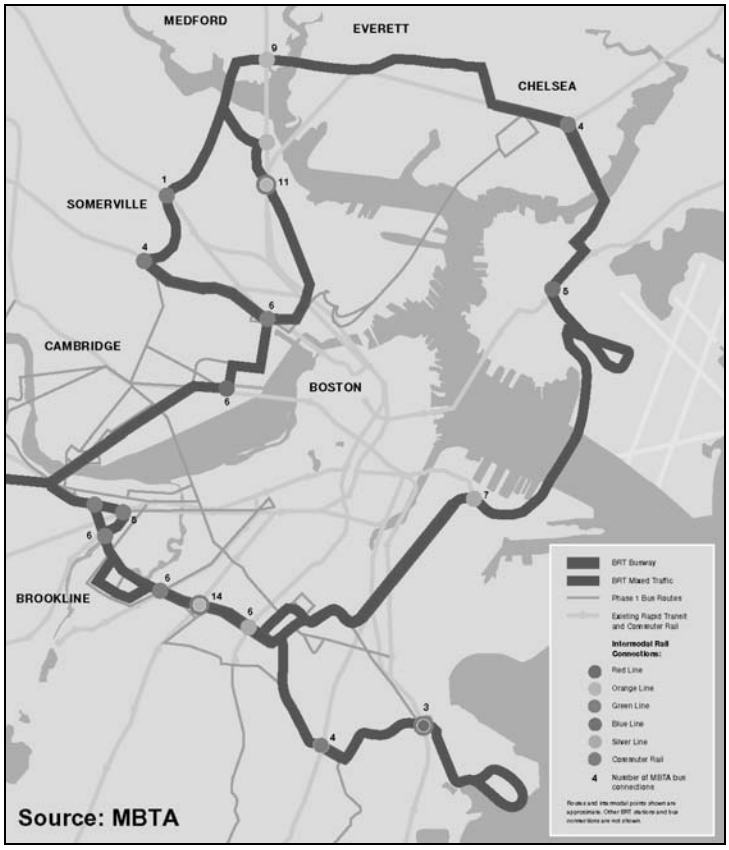


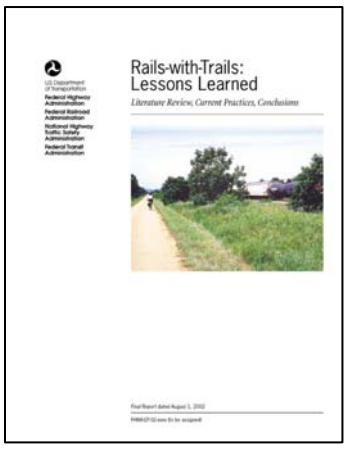
Figure 1-3. Urban Ring Project

Due to the importance of the Urban Ring project, consultants analyzed several alternatives that included shared corridor use with the proposed RWT, as explained in Section 3: Alternative Alignments. Any consideration of a trail along the Grand Junction corridor must include the possible Urban Ring alternatives.

The current proposal (analyzed for this report) for the next phase of the Urban Ring is a bus rapid transit at-grade alternative that would be a one-way northbound at-grade busway entering the Grand Junction right-of-way in lower Cambridgeport and continuing to Main Street, where it turns onto the street. The southbound bus would operate on Albany Street. In late 2005, it was determined that a new process be undertaken to re-evaluate options for the Urban Ring, which is beginning in 2006. This could change again what may happen along the Grand Junction corridor but it is anticipated that the new study will take the multi-use path into account.

Background Documents

This report draws heavily on a proposal written by the Cambridge Bicycle Committee (*Grand Junction Multi-Use-Path: A Proposal*, Final Draft August 2001). It also draws on the U.S. Department of Transportation's *Rails-with-Trails: Lessons Learned* report (August 2002), which presents case studies on 21 RWT projects and covers best practices in planning, liability reduction, design, and corridor management, among numerous other issues.



In addition, the following documents have served as references:

- Cambridge Pedestrian Plan
- Cambridge Bicycle Plan (Draft)
- Cambridge Growth Policy Document, *Towards a Sustainable Future*
- Green Ribbon Committee Report
- Eastern Cambridge Planning Study (ECAPS)

Project Process

The process for this project encompassed technical research, numerous meetings, and field review. It included the following steps:

- Research on corridor ownership.
- Field review of the corridor.
- Analysis of legal issues.
- Site walk with representatives of city bicycle and pedestrian committees, city departments and MIT.
- Meetings with the project working group (see acknowledgements).
- Meetings or conversations with:
  - MIT Department of Facilities personnel
  - MBTA officials and EarthTech (their consultants for the Urban Ring project)
  - CSX railroad personnel
  - Cambridge Redevelopment Authority
  - Cambridge Bicycle Committee
  - Cambridge Pedestrian Committee
  - Area 4 Neighborhood Association
  - East Cambridge Planning Team
  - Cambridge residents through an open house meeting